

Electroluminescent Displays

Abstract

Certain materials are electroluminescent, and this electroluminescent effect has been used in the construction of backlights for displays. Such a backlight commonly consists of a transparent front layer (11) known as the substrate carrying over its rear face a transparent electrically-conductive film (12) forming the backlight's front electrode and covered by a layer of electroluminescent/phosphor material (13) over the rear face of which is a high-dielectric layer (16) bearing on its rear face a conductive film (17) forming the back electrode. The whole is positioned behind a mask (18) that defines whatever characters the display is to show. This use of a mask has some disadvantages, some of which can be overcome by utilizing an array of suitably shaped individual electrodes (21) instead of a continuous one; however, this itself has drawbacks, since the lead (22) to each electrode acts as an electrode in its own right, activating the phosphor to show faint but distracting additional illumination.